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THE METHODS AND RESOURCES USED FOR DEVELOPING THE CURRICULUM IN ANIMAL HUSBANDRY FOR VOCATIONAL AGRICULTURE IN KANSAS

by

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INTRODUCTION

The importance of animal husbandry to the agricultural economy of the United States has been recognized by most statisticians who study this segment of economy. The 1954 Census of Agriculture[1] reported that the total value of farm products sold in the United States that year was twenty-four and six-tenths billion dollars. Livestock and livestock products accounted for about 28 per cent of the total, and together with dairy products, poultry and poultry products they approximated 50 per cent of the value of farm products sold. In 1954, over 62 per cent of American farms sold cattle, hogs, sheep, and horses or mules.

Kays[2] wrote in his textbook on animal husbandry that an agriculture based on animal production helped to build the soil because much of the land was used for pasture and forage crops, so that the large part of the fertilizing value of the feeds consumed by livestock was returned to the soil in the manure. An animal agriculture increased farm income and provided the nutrious high protein foods needed most and liked best by consumers. Livestock

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[1]United States Department of Commerce, United States Census of Agriculture, 1954 (Washington, D. C.: United States Department of Commerce).

[2]John M. Kays, Basic Animal Husbandry (Englewood Cliffs: Prentice-Hall, Inc., 1961), p. 3.

production was assumed, then, for the purposes of this study, to have been one of the strongest contributors to prosperity and stability in agriculture.

Animal Husbandry Defined

It was assumed in this study that animal husbandry referred to every kind of animal raising on a farm as a program of farming. It was then a very broad subject to teach vocational agriculture high school students. However, each area of animal husbandry was developed for teaching to high school students. The areas of teaching were varied depending upon the needs of each community. In the state of Virginia[3] the teaching units in animal husbandry were concerned with:

A. Basic Units
    1. Animal breeding
    2. Feeding animals
    3. Fitting and showing
    4. Maintaining animal health
    5. Preparing, butchering, and preserving
    6. Selecting and grading

B. Enterprise Jobs

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[3]Teaching Units for Vocational Agriculture in Virginia. Agricultural Education Bulletin No. 17, 1962. (The Department of Vocational Education Virginia Polytechnic Institute, Blacksburg, Virginia.)

1. Beef cattle
2. Bees
3. Dairy
4. Poultry
5. Seafood
    a. Blue crabs
    b. Fin fishes
    c. Oysters
6. Sheep
7. Swine
8. Wildlife management
9. Workstock and pressure animals

In conferences with Agan,[4] it was determined that a standardized course of study for vocational agriculture high school in Kansas had not been recommended. The vocational agriculture teachers, as individuals, developed one for themselves depending upon the needs of the community. However, the suggested course planning for Kansas[5] stated that the major enterprises to be considered in the planning of vocational agriculture course in Kansas included:

1. Wheat production

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[4]Dr. Raymond J. Agan, Professor of Agricultural Education, Kansas State University.

[5]Course Planning for Kansas, Agricultural Education, Kansas State University. (Mimeographed)

2. Grain sorghum production
3. Soils and their function
4. Soil conservation
5. Barley and oat production
6. Summer fallowing in northwest Kansas
7. Beef cattle production
8. Swine production
9. Sheep production
10. Poultry production
11. Dairy production
12. Principles of feeding livestock
13. Essential of animal breeding
14. Future Farmers of America
15. Irrigation practices
16. Farm management

More than one-third of the recommended enterprises were devoted to animal husbandry. The following were the suggested problem areas of instruction of animal husbandry given by the same writer.

Beef Cattle Production

1. Choosing the breed of beef cattle in Kansas
2. Selecting the breeding stock
3. Providing housing and equipments
4. Determining the pasture and feed equipments
5. Recommended systems of beef production in Kansas

a. Deferred system
b. Creep feeding system
c. Feeder calf program
d. Wintering and summer grazing system
e. Wintering system

6. Care and management of breeding herd at calving time
7. Castrating and dehorning
8. Controlling diseases and parasites
9. Judging price risks in marketing cattle

Swine Production in Kansas

1. Choosing the breed of swine for my farming program
2. The two litters per year farrowing program
3. Equipment and housing for swine herd
4. Figuring and probable financial outcome for the sow and litter program
5. Feeding and management of breeding herd
6. Care of sow at farrowing time
7. Raising litter from farrowing to weaning time
   Needle teeth, castration, vaccination, marking, etc.
   creep feeding
8. Control of disease of swine
9. Control of parasites in swine

10. Pasture crops for swine production
11. Price cycles and marketing dates in swine production
12. Feeding balance rations to fattening hogs (including self-feeding vs. hand, etc.)
13. Showing and preparation for show
14. Judging fat barrows and breeding stock

Sheep Production in Kansas

1. Breeds and types of sheep
2. System of sheep production in Kansas
    a. Fall lambing
    b. Feeder lambs
3. Figuring the probable financial outcome for ewe and lamb project
4. Obtaining and selecting western ewes for ewe and lamb project
5. Feeding and management of breeding herd
6. Castrating and docking
7. Controlling diseases and parasites
8. Feeding for early markets
9. Considering market outlook and price cycles
10. Judging market lambs and breeding lambs

Poultry Production in Kansas

1. Choosing the type, breed and variety
2. Housing and equipments for poultry approved

practices

3. Brooding and feeding baby chicks
4. Feeding and management of the laying flock
5. Culling the laying flock
6. Grading live market poultry
7. Hatchery flock selection
8. Selecting of hatching eggs
9. Grading shelled eggs according to the U. S. grades

Dairy Production in Northwest Kansas

1. Feeding for heavy milk production
2. Pasture for dairy cattle
3. Approved practices in raising replacement stock
4. Controlling diseases and parasites in dairy animals
5. Judging dairy cattle
6. Judging dairy products
7. Producing grade A milk
8. Figuring a budget for a dairy herd
9. Loose housing vs. conventional housing

Principles of Feeding

1. A study of various feed nutritions
2. The digestible, absorption and use of feed by animal

3. Factor affecting the value of feeds
4. Study of proteins
5. Study of carbohydrates and fats
6. Study of minerals in livestock feeding
7. Study of vitamins in livestock feeding
8. Balancing rations for all classes of beef cattle
9. Balancing rations for all classes of swine
10. Balancing rations for all classes of sheep
11. Balancing rations for all classes of dairy cattle

Essential of animal breeding

1. The primary principles of animal reproduction
2. Cross-breeding, outcrossing, grading up, artificial breeding, etc.
3. Study of newly developed breeds of livestock

According to Dr. Raymond J. Agan, vocational agriculture teachers could either follow the suggested course of study or not depending upon their need. The teachers made their own decision in selecting the teaching areas. The suggested course gave only the general idea of suggested areas of teaching for the teachers.

Needs for the Study

The background of the need for this study was basically because the author sought information on the teaching of animal husbandry in the high schools of Kansas for use in developing a similar curriculum when he goes back to teach animal husbandry in his country (Thailand). At least four principle ideas used for developing the curriculum in animal husbandry were obtained: (1) the areas taught, (2) the methods used in teaching, (3) the resources of information used in teaching and (4) the amount of time devoted to animal husbandry teaching in the curriculum.

STATEMENT OF THE PROBLEM

Objectives

The main objective of this study was to determine the methods and resources used by vocational agriculture teachers in teaching animal husbandry to high school vocational agriculture students. The specific objectives included:

1. To determine the relative emphasis given areas in animal husbandry as recommended by teachers of vocational agriculture.

2. To determine the resources most useful to vocational agriculture teachers in teaching animal husbandry.

3. To discover the methods of instructions being used by teachers of vocational agriculture in teaching animal husbandry classes.

4. To determine the time allotted in the curriculum of the teaching animal husbandry by years.

Definition of Terms

To eliminate confusion, it was felt that certain terms should be defined in regard to the way in which they were used in the context of this manuscript:

1. Young farmer. "Usually from high school age to thirty years old or when a farmer is getting established in farming. The bulk of young farmers is up to the age thirty."[6]

2. Adult farmer. "An established farmer, over twenty-one years of age."[7]

3. Textbook. For the purposes of this study, "a book that was used by students for regular study in animal husbandry."

4. Reference book. For the purposes of this study, "a book used for specific or supplementary information in

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[6]Personal interview with Professor Howard R. Bradley, Professor of Young and Adult Farmer Class, Agricultural Education, Kansas State University, November 23, 1964.

[7]Ibid.

the areas of animal husbandry."

5. Human resources. In this study human resources referred to "human individuals who were competent in giving recommendation in certain area of animal husbandry. They were usually specialized in one phase of farming program."

6. Non-human resources. In this study, "the materials used such as textbooks, bulletins, and magazines that were used as a teaching aid."

Procedure Used

Fourteen vocational agriculture teachers in Kansas were contacted personally to obtain information on the methods and resources that they were using in teaching animal husbandry to vocational agriculture high school students. A check list of questions[8] was prepared and the teachers were asked to respond orally to them. The blanks were filled in by the interviewer as the questions were answered. All reference books related to any phase of animal husbandry were counted. Also listed were the ones that the teachers used for the supplemental information in teaching particular phases of animal husbandry.

A map showing the location of the vocational agriculture teachers cooperating is shown on an area basis in

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[8]See Appendix A.

Appendix B.[9]

The Check List Questionnaire

The questions for interviewing vocational agriculture teachers were developed. Research studies, textbooks, curriculi in vocational agriculture, and publications on teaching animal husbandry in high school were used as well as recommendations from professors in Agricultural Education at Kansas State University.

The check list questionnaire consisted basically of two major parts. The first part referred to the materials that vocational agriculture teachers were using to teach animal husbandry. This area included questions on text and reference books, and the emphasis that the teachers placed on human and non-human sources.

The second part of the check list of questions was aimed at gathering information on the methods which vocational agriculture teachers employed in teaching animal husbandry. It also sought opinions as to the importance of areas in animal husbandry and the time allotted in the curriculum.

Organization

All vocational agriculture teachers selected for

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[9]See Appendix B.

this study were born on a farm and had an average of seventeen and two-tenths years experience of living on a farm before the age of eighteen. They also had an average of five and seven-tenths years of experience in 4-H club activities, and three and six-tenths years of Future Farmers of America training. There were four out of fourteen who had worked as a herdsman before becoming vocational agriculture teachers. Six were engaged in part-time farming on their own with an average of eighty-two crop acres. Beef cattle and swine were types of livestock businesses employed by those six vocational agriculture teachers.

The average years of teaching experience was eight and six-tenths years as compared to an average of nine and seven-tenths years for the 190 vocational agriculture teachers in the state.

One of the crucial aspects for teaching animal husbandry was in the training the teachers received while attending college, and their animal husbandry background. The interview check list sought to obtain information on their background and found that vocational agriculture teachers had an average of twenty-two and two-tenths semester credits in animal husbandry in college.

All data were hand tabulated and tables were developed to help answer the objectives of this study. The information obtained from the interviewed fourteen

vocational agriculture teachers was used in preparing the data. The data were arranged into tables and where appropriate simple measurements of central tendency were used. In order to determine how the vocational agriculture emphasized animal husbandry, an attempt was made to reveal whether the teachers placed more emphasis on certain units in animal husbandry. Ten units were listed and the teachers evaluated them as to their importance. The vocational agriculture teachers were asked where they emphasized animal husbandry the most between high school classes, young farmer classes and adult farmer classes, or whether emphasis was equal in all three areas.

Since time was limiting factor in teaching, teachers were also asked if they needed more time for teaching animal husbandry and how the time was allotted by years.

Questions were asked concerning the resources used in teaching animal husbandry. The author was interested in determining the value and type of resources that vocational agriculture teachers were using to teach animal husbandry. Resources were then divided into two categories, human and non-human, to show importance and variation of use.

Since textbooks were an important source in teaching animal husbandry, teachers of vocational agriculture were asked to give the names and estimate the value of the textbooks used in animal husbandry teaching. The reference

books that vocational agriculture teachers were using were listed in Appendix C.[10]

The teachers were asked to emphasize the methods used in teaching animal husbandry, and the data in Table VII indicated the response.

Limitations

There were certain limitations placed on the data by the procedure used. Because of the use of the interview check list procedure for obtaining the information, and due to the limitation of time, the schools were selected by a geographical sampling method. All vocational agriculture departments in the radius of about thirty-five miles from Manhattan, Kansas were selected for this study. The total number of selected departments was fourteen.

REVIEW OF SELECTED LITERATURE AND RESEARCH

Introduction

The search for literature and research which had been completed previously in areas covered by this study was greatly assisted by the Summaries of Studies in Agricultural Education, published by the United States Office of Education and by the Master's Report in Agricultural

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[10] See Appendix C.

Education conducted in Kansas. Many textbooks and bulletins were also used which were thought to have direct application to this study.

For simplicity and clarity of presentation, the selected literature and research reviewed was divided into two general categories. The first category dealt with studies that were conducted in Kansas. The second category was devoted to literature and research in animal husbandry teaching conducted in other states.

Selected Review of Literature and Research in Teaching Animal Husbandry in Kansas

The purpose of Morrison's[11] study was to determine what changes had taken place, since an earlier Master's Report study made by James Dale Dobkins. Morrison reported on the average size and scope of farming projects for tenth, eleventh, and twelfth year students of vocational agriculture in Kansas for the year of 1952 and 1953. The information for this study was secured by means of questionnaire which was sent to thirty vocational agriculture teachers representing vocational agriculture departments in Kansas secondary schools.

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[11] Ray W. Morrison, A Comparative Study of the Size and Scope of Kansas Vocational Agriculture Students' Farming Projects for the Year 1952 Through 1953. Master's Report, 1954, Kansas State University Library, Kansas State University, Manhattan, Kansas, p. 47.

It was found that the tenth year students of 1953 in their farming projects had shown an average increase of one head of cattle, an average increase of one head of hogs, an average decrease of thirteen and one-tenth head of sheep, an average increase of five-tenths head of poultry, and an average decrease of one acre of crops.

The eleventh year students in 1953 showed for their farming projects an average decrease of one and two-tenths head of cattle, an average decrease of five and three-tenths head of hogs, an average decrease of one and eight-tenths head of sheep, an average decrease of seventy-one and five-tenths head of poultry and an average decrease of six and four-tenths acres of crops.

The twelfth year students in 1953 showed for their farming projects an average increase of seven-tenths head of cattle, an average decrease of nine and five-tenths head of hogs, an average increase of one and six-tenths head of sheep, an average increase of three-tenths head of poultry and an average increase of thirty-five and six-tenths acres of crops.

Two of the variable factors which could produce changes in farming programs were prices and weather.

In a study concerned with the use of visual aids for instructional purposes in the Kansas vocational agriculture

departments, Oliphant[12] made a survey study of 213 vocational agriculture departments in Kansas. The results were tabulated on the basis of 176 usable surveys returned. It was found that the major problems of teachers reporting were as follows:

- Visual aids were not available when most needed.
- Visual aids available failed to adequately cover the problems to be studied.
- There was insufficient funds.

An average of 140 visual aids were used by vocational agriculture teachers during the 1955-1956 school term. Pictures were used most frequently for a total of 3,681 times during 1955-56 school term. Visual aids were used 5,173 times during the 1955-56 school year in the field of animal husbandry, and 4,199 times in the field of farm mechanics. These two fields rated the highest in the use of audio-visual aids.

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[12]Marcus W. Oliphant, A Survey Study of Audio-Visual Equipment and Use in Kansas Vocational Agriculture Departments. Master's Report, 1957, Kansas State University Library, Kansas State University, Manhattan, Kansas, p. 47.

Selected Literature and Research on Animal Husbandry Teaching Conducted Outside Kansas

A non-thesis study was made at the University of Tennessee[13] to determine the teaching references which were appropriate for use in teaching corn, dairy, swine, poultry, small grain, and Irish potatoes, in all-day vocational agriculture classes in Etowah, Henderson County, N. C. Community. Each of the six enterprises was analyzed into jobs. Reference books, bulletins, film strips were then selected and listed in form under the job for which they were adapted.

It was found that an adequate number of reference books was available for teaching the various jobs under each of the enterprises. It was difficult, according to the author, to find a sufficient number of bulletins and film strips for teaching many of the jobs included in the list.

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[13]Reference for Corn, Dairy, Swine, Poultry, Small Grain, and Irish Potatoes Enterprises, Non-thesis, 1957, University of Tennessee, 60 p. Library, University of Tennessee, Knoxville. Summaries of Studies of Agricultural Education, Vocational Bulletin No. 237, Agricultural Series No. 57, pp. 14-15.

The purpose of Claxton's[14] study was to prepare a four-year course of study for the all-day students enrolled in vocational agriculture at the Broken Arrow High School. Local studies were made to secure information as a basis for the course content. It was found that: The soils in Broken Arrow Community were largely upland soils of three major types: Bates, Parsons, and the high terrace soils bordering the Arkansas River. The soils in general were acid, lower in available phosphorous, and erosion was a major problem on most of the crop land. These findings justified the emphasis placed on soils in the course of study during the junior and senior years. The major enterprises were dairy, poultry, and swine. The dairy poultry type farm was prominent in the community. The contributary enterprises were corn, oats, grain sorghum, alfalfa, mung bean, lespedeza, prairie hay, and pasture. Beef cattle, cotton, truck and fruit crops were of minor importance. Time would be allotted to each of these enterprises in the course of study, in accordance with the importance and frequency on all farms.

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[14]Oval L. Claxton, A Four-Year Course of Study for Vocational Agriculture in Broken Arrow High School, M. S. thesis, 1948, Oklahoma Agricultural and Mechanical College, 61 p. Summaries of Studies of Agricultural Education, Supplement No. 3, Vocational Bulletin No. 242, Agricultural Series No. 59, p. 7.

Davis[15] mailed the questionnaire to vocational agriculture teachers to determine the teaching aids they desired. The questionnaires returned were classified according to the type of farming followed in the community. They were then summarized and the list of the suggested teaching aids was made. It was found that all teachers regardless of the length of time they have taught, desire additional teaching aids. The most sought for aid was a current news bulletin covering all phases of agriculture in Texas. Most teachers did not have sufficient information on new insecticides for crops and livestock. Some teachers were not using the information now available. Bulletins were not available in form suitable for use with students and adults having a high school education level. The author concluded that: (1) additional up-to-date subject matter was needed for the teaching field of agriculture; (2) short briefing course should be conducted for teachers of vocational agriculture; (3) teachers did not enough training in F. F. A. work; (4) present sources of information were not sufficient to keep teachers well informed; (5) teachers

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[15]Herbert Davis, A Study to Determine Teaching Aids Desired by Vocational Agriculture of Texas, M. S. thesis, 1959, Texas Technological College, 42 p. Library, Texas Technological College, Lubbock, Texas. Summaries of Studies of Agricultural Education, Supplement No. 4, Vocational Bulletin No. 246, Agricultural Series No. 61, pp. 14-15.

would be more valuable to the community they served if they were supplied with new information regularly; and (6) far to much material was out of date when it was received by the teacher.

The purpose of Clair's[16] study was to determine what aids would be of value in teaching the unit in the dairy enterprise and to obtain information concerning the availability and source of such teaching aids. A number of vocational agriculture teachers were contacted personally to obtain information on what teaching aids they thought would be available in teaching dairy problems. It was found that more readily available teaching aids might be used by teachers of vocational agriculture in teaching the various dairy jobs, such as: books, bulletins, pictures, score cards, charts, slide-films, movies, an opaque projector, visits, and demonstrations. Very often one particular teaching aid could be used in teaching a number of related dairy jobs, thus decreasing the time and expense of accumulating material for lesson plans. Several dairy jobs might be observed in one visit to a dairy farm.

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[16]E. C. St. Clair, A Study of Teaching Aids Available in Teaching the Various Phases of Dairy Enterprise, M. S. thesis, 1949, Texas Technological College, 59 p. Library, Texas Technological College, Lubbock, Texas. Ibid., p. 37.

Crow's[17] study was designed to provide present and future teachers of vocational agriculture a plan for teaching beef cattle production program and contribute to their success. A detailed study was made of information needed by farmers and ranchers to produce beef cattle more efficiently and economically. On the basis of information obtained, a three-year instructional agriculture program was planned. It was found that more effort should be made to find the system of beef cattle production adapted to the local community. The teaching plan should be directed toward the establishment of these systems in the boys' supervised farming programs with less emphasis being placed upon beef cattle show programs.

Blackbourn[18] listed the following objectives for the first two years of study in vocational agriculture.

1. To develop an understanding the science of soils, plant life, and animal life as it related to agriculture.

2. To provide students an opportunity to develop an interest in agriculture and rural living.

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[17]William H. Crow, Methods of Teaching Beef Cattle Production to Students of Vocational Agriculture, M. S. thesis, 1952, Texas Technological College, 87 p. Summaries of Studies of Agricultural Education. Supplement No. 6, Vocational Bulletin No. 251, Agricultural Series No. 63, p. 21.

[18]L. A. Blackbourn, "What Agriculture Should be Taught the First Two Years," Agricultural Education Magazine, (June, 1964), pp. 283-84.

3. To provide students with available information relative to the character of, the opportunity in, and the qualifications necessary for occupations in the field of agriculture.

The author also listed the specific objectives for the third and fourth years as follows:

1. To provide adequate education in production of food and fiber.

2. To develop an understanding of processing, transportation, marketing, and organizing marketing and purchasing agencies for food and fiber.

3. To provide instruction in selection, operation, maintenance and repair of farming and processing equipment use on their own farm.

Dunning[19] suggested three main types of teaching materials used in vocational agriculture instruction work were: references, illustrative materials and visual aids.

Possibilities of reference materials included bulletins from state colleges; releases from experiment stations and newspapers and magazines. Bulletins and periodicals were more valuable in keeping instruction up-to-date than were textbooks because of their current publication and

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[19]T. A. Dunning, "What Teaching Material to Use?," Agricultural Education Magazine, (February, 1952), No. 8, p. 175.

smaller expense. Magazines and newspapers were often the first to mention the new developments and information. Illustrative material might include items such as charts from industrial concerns, pictures from breed associations of latest desired types of livestock. These types of illustrative materials were usually timely and readily available to the alert instructors. They helped in familiarizing the students with the new livestock types which might not have yet found their way into the local community.

In summary, reviewing what was found about teaching animal husbandry in the recent years before the study, there appeared to be a need for a closer look at what methods and resources were being used in the teaching of animal husbandry as well as what areas vocational agriculture teachers emphasized in teaching animal husbandry.

THE EMPHASIS PLACED ON ANIMAL HUSBANDRY

It was assumed in this study that animal husbandry was one of the most important programs taught to vocational agriculture students in high school, and that vocational agriculture teachers played the important role in selecting the areas of teaching in animal husbandry. The fourteen vocational agriculture teachers in the survey were asked to evaluate ten areas as to their importance in the teaching of animal husbandry to students. These ten areas were

considered necessary to be covered in a good animal husbandry curriculum in the high schools. The vocational agriculture teachers were asked to evaluate the ten animal husbandry areas listed in Table I, according to the degree of the importance each area was in the curriculum during the past three years and also indicated where students interests differed.

In Table I, the scores were derived by multiplying three times the number of teachers indicating the items as being "very important", two times the number rated "moderate important", and one times the number rated as "no importance". By adding the results and dividing by the total number of teachers responding to the item, the average score was derived. The number and response to each area by the fourteen vocational agriculture teachers was listed in Appendix D.[20]

The vocational agriculture teachers placed emphasis on beef cattle, feeds and feeding, animal health and swine production throughout the local areas covered in this study. However, each phase of animal husbandry listed was very important, according to the vocational agriculture teachers, but greatest emphasis was dependent upon the need of the local area.

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[20]See Appendix D.

TABLE I

THE VALUE PLACED ON AREAS OF ANIMAL HUSBANDRY INSTRUCTION

Animal Husbandry areas	Average score*
Dairy Cattle	2.0
Beef Cattle	2.9
Swine Production	2.7
Sheep Production	2.0
Horse Production	1.5
Poultry Production	1.6
Feeds and Feeding	2.9
Animal Health	2.8
Livestock Judging	1.6
Animal Breeding	1.7

*The average score could range in value between 0 and 3.

Since vocational agriculture teachers instruct in high school, young farmer and adult farmer classes, as a part of the total vocational program, the author thought it would be important to discover the emphasis placed on animal husbandry on each portion of the total program. Vocational agriculture teachers who did not have young and adult farmer program were also asked to indicate the areas where they thought animal husbandry should be emphasized. Table II revealed their response to this question.

TABLE II

THE PARTS OF THE PROGRAM IN WHICH ANIMAL HUSBANDRY WAS EMPHASIZED

Parts of the program	Teachers emphasis of Animal Husbandry	
	Number of teachers	Per cent
High school classes	10	71.43
Young farmer classes	1	7.14
Adult farmer classes	0	0.00
Equally for all three	3	21.43
Total	14	100.00

Some of the teachers responded by answering that emphasis should be given in young and adult farmer classes equally; whereas, other selected one of the areas.

Data in Table II indicated that over one-fifth of the fourteen vocational agriculture teachers believed animal husbandry was equally important in all three portions of the program.

Interest and Ease of Teaching Animal Husbandry

A study of the data presented in Table III indicated that vocational agriculture teachers in Kansas found animal husbandry an interesting subject to teach and that they would rather teach animal husbandry to high school students

than the young and adult farmer classes.

TABLE III

INTEREST AND EASE OF TEACHING ANIMAL HUSBANDRY

Questions asked	Response		
	Yes	No	Undecided
Do you feel animal husbandry is interesting for you to teach?	14	0	0
Do students find animal husbandry an interesting subject?	14	0	0
Is animal husbandry easier to teach high school classes than young and adult farmer classes?	3	7	4

The data in Table III revealed that according to the teachers of vocational agriculture, a hundred per cent of students found animal husbandry an interesting subject. Also the vocational agriculture teachers felt it was an interesting subject to teach. Some teachers indicated that teaching animal husbandry to young and adult farmer classes was more difficult than teaching to high school classes.

Since a standardized course of study in vocational agriculture was not recommended in Kansas. The author then assumed the minimum amount of time devoted for teaching animal husbandry from the suggested course of study in vocational agriculture developed by Kansas vocational

agriculture teachers.

The data in Table IV showed the average number of days devoted to the teaching of the animal husbandry in high school curriculum by the fourteen vocational agriculture teachers in the survey, as compared to the Course of Study in Vocational Agriculture[21] developed by Kansas vocational agriculture teachers. The results revealed that vocational agriculture teachers in the survey and the suggested course of study were emphasizing animal husbandry in the sophomore year. The suggested course of study had not recommended teaching of animal husbandry in junior and senior years.

The data in Table V revealed the result of the survey when teachers were asked if they needed more or less time in the curriculum for teaching animal husbandry.

From the data in Table V, it appeared that teachers would want the same amount of time they had at the time of the study, or more, for the teaching of animal husbandry. None of the fourteen teachers reporting suggested there would be less time in the curriculum in animal husbandry. Slightly under one-half, 42.8 per cent, of the teachers

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[21]Professor Howard R. Bradley, A Suggested Program of Instruction in Livestock Production Including Selected Lesson Plans in Livestock Science for Kansas Vocational Agriculture Students. Developed by Agricultural Education Students in 1962-63 in Course No. 706.

indicated that the same time should be allotted for animal husbandry in the curriculum, while 57.1 per cent of vocational agriculture teachers indicated that there should be more time devoted in the curriculum.

TABLE IV

AVERAGE NUMBER OF DAYS DEVOTED TO TEACHING ANIMAL HUSBANDRY AS COMPARED TO THE ESTIMATED MINIMUM AMOUNT OF TIME IN THE SUGGESTED COURSE OF STUDY IN VOCATIONAL AGRICULTURE

Year	Average number of days* devoted to Animal Husbandry	Estimated minimum days* for Animal Husbandry teaching in the suggested course of study
Freshman	75	30
Sophomore	95	104
Junior	46	-
Senior	33	-

*Days referred to the number of class periods in each year spent teaching animal husbandry.

TABLE V

TIME NEEDED FOR TEACHING ANIMAL HUSBANDRY

Teachers need	Number
More time	8
Same amount of time	6
Less time	-
Total teachers	14

RESOURCES USED IN TEACHING ANIMAL HUSBANDRY

Many teaching aids for vocational agriculture teachers were found to be available without cost and located in the community. It was assumed in this study that the program in vocational agriculture education could be of the more value and interest when local people presented information and their experiences before a class than when just text or reference books were used. Bulletins, farm magazines, and commercial literature were also available as supplemental information in the class room.

Resource people in communities were usually willing to render their assistance to schools. Veterinarians and successful farmers were examples of some of the resource people willing to discuss livestock diseases and management. The county extension service could also present useful materials. When the teachers asked for help from local resource people, they also promoted good public relations.

Ekstrom and McClelland[22] wrote concerning the use of resources in vocational agriculture.

> The tendency for teachers to overdo the lecture approach is undoubtedly the major abuse in the teaching of adult classes. There are some situations when certain types of technical information need to be explained by the telling process. It is then that specialists such as

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[22]G. F. Ekstrom and J. B. McClelland, Adult Education in Vocational Agriculture (Illinois: The Interstate Printers and Publishers, 1952), p. 88.

extension men, the county agent, or the local veterinarian are occasionally brought before the class. The instructor should bear in mind that he is responsible for the organization and teaching of the class and that he, more than any one else, should be most familiar with home situation and problems of the members.

If a guest is asked to talk to the class, the effectiveness of this contribution is heightened when the instructor directs the discussion following the visitor's presentation. Many teachers have used outside specialists to advantage by having them sit with members and contribute to the discussion from time to time as consultants.

Some teachers made a community survey to determine the human and non-human resources available. Vocational agriculture teachers used information from the Cooperative Extension Service, Dairy Herd Improvement, and Kansas State University Extension Service as the sources of animal husbandry information.

Data in Table VI revealed the resources the vocational agriculture teachers used that were non-human in animal husbandry teaching. The number and response to each non-human resource by the fourteen vocational agriculture teachers was listed in Appendix E.[23]

The data of Table VI revealed that bulletins, books, and farm magazines were more useful in teaching animal husbandry than commercial company literature, movies, and work books.

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[23]See Appendix E.

TABLE VI

VALUE PLACED ON NON-HUMAN RESOURCES BY THE AGRICULTURE TEACHERS

Resource used	Average value*
Bulletins	2.9
Reference books	2.5
Farm magazines	2.4
Movies	2.2
Commercial company literature	2.2
Work book	0.0

*The number value was derived by multiplying three times the number of teachers indicating the items as being "very useful", two times the number rated "moderate useful", and one times the number listed as "not useful".

Data in Table VII revealed the value of the human resources which vocational agriculture teachers found useful in teaching of animal husbandry. The number and responses to each human resources by the fourteen vocational agriculture teacher was listed in Appendix F.[24] Vocational agriculture teachers valued the use of their own farm background as the most important resource in teaching animal husbandry. The vocational agriculture teachers valued the County Extension Service higher than any of other human resources located in the counties.

[24]See Appendix F.

TABLE VII

VALUE PLACED ON HUMAN SOURCES BY VOCATIONAL AGRICULTURE TEACHERS

Resource used	Average value*
Your own farm background	2.9
County Extension Service	2.0
Farm managers	1.9
University specialists	2.2

*The number value was derived by multiplying three times the number of teachers indicating the items as being "very important", two times the number rated "moderate important", and one times the number listed as "none importance".

University specialists in animal husbandry could not be available at all times when teachers were in need of their advice. Teachers usually discussed problems with specialists directly instead of asking the specialists to talk to the class. Many areas did not have farm managers available.

No particular text book was used in teaching the various phases of animal husbandry. All books were used as reference books. Bulletins from Kansas State University and periodical publications were used the most as a source of information in teaching animal husbandry because their current publication kept the instruction more up-to-date than did reference books. "Text books are expensive, we

can not buy one for every student," said one teacher. However reference books were widely used by vocational agriculture teachers in teaching animal husbandry. Teachers as individuals used different books and more than one for the teaching of each area of animal husbandry. Adequate numbers of reference books were available in each department. There were an average of forty-six reference books available in each department. The reference books used frequently by fourteen vocational agriculture teachers were: Dairy Production, by R. V. Diggins and C. E. Bundy; Stockman's Handbook, by M. E. Ensminger; Swine Production, by R. V. Diggins and C. E. Bundy; Sheep Husbandry, by M. E. Ensminger; Livestock and Poultry Production, by C. E. Bundy and R. V. Diggins; Feeds and Feeding, by F. M. Morrison; Animal Science, by M. E. Ensminger; and Livestock Judging, by H. G. Youtz and A. C. Carlson.

METHODS USED IN TEACHING ANIMAL HUSBANDRY

It was assumed in this study that vocational agriculture has emphasized the development of knowledge, understandings, skills, attitudes, and appreciation so that the student is better prepared when he goes farming. It was assumed to follow that for such traits to be developed effectively, the teacher should perhaps use many methods of teaching.

From Edgar Dale's[25] cone of experience, it was assumed that the most effective method of teaching for understanding was by the direct purposeful experience. Vocational agriculture teachers used the direct purposeful experience in many ways, for example, the taking of a field trip to enable students to visualize various techniques used in farming. The laboratory farm was used where different methods for farming were practiced to develop the students' background as to approaches and results in farming.

When resource people were used, there was usually more interest in the subject than if statistical lectures were given without applying the facts to the definite situations. It was also felt that students must also be properly motivated and information should be geared to their level to be beneficial.

All teaching could not be done on the direct, concrete, sensory level because time did not permit all learning to be conducted this way. Many crops were grown and harvested while school was not in session and some school systems limited the number of field trips which teachers could take. All schools did not have access to laboratory

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[25]Edgar Dale, Audio-Visual Method in Teaching (New York: The Dryden Press, 1947), p. 39.

farm for experimentation. Therefore, vocational agriculture teachers relied on different resources in teaching as books, bulletins, movies and others in animal husbandry teaching. Many vocational agriculture teachers had students work out various phases of animal husbandry by individuals or in groups and report to the class. This gave students experience in planning and also gave the other students a chance to voice their ideas or opinions.

Data in Table VIII showed the number of times different teaching methods were used in teaching animal husbandry by vocational agriculture teachers. The lecture method was used more as a teaching method than any other methods in all the animal husbandry areas. The area using the greatest number of methods of teaching was beef cattle with average of four and one-tenth methods per vocational agriculture teachers, followed by swine production with an average of three and eight-tenths methods reported per teacher.

TABLE VIII

METHODS USED TO TEACH THE AREAS OF ANIMAL HUSBANDRY

Areas taught	Methods used								
	Lecture	Workbook	Report	Lab farm	Field trips	Specialists	Visual aids	Resource people	Others
Dairy Cattle	14	0	2	0	14	2	8	2	4
Beef Cattle	14	0	5	0	14	5	10	4	4
Swine Production	14	0	5	0	13	5	9	3	4
Sheep Production	12	0	3	0	11	3	5	4	4
Horse Production	8	0	0	0	4	0	4	0	4
Poultry Production	10	0	2	0	9	0	4	2	3
Feeds and Feeding	13	0	5	0	6	2	4	6	6
Animal Health	13	0	4	0	10	6	7	0	5
Livestock Judging	12	0	3	0	14	3	9	3	5
Animal Breeding	13	0	3	0	5	4	5	3	5

In Table IX was presented a summation of the data concerning the teaching methods used in all animal husbandry areas by the vocational agriculture teachers, and it suggested that the teachers used more lecture than the other methods. However, vocational agriculture teachers used more than one method in teaching each area of animal

husbandry.

TABLE IX

TOTAL NUMBER AND PER CENT OF METHODS USED IN TEACHING ANIMAL HUSBANDRY

Teaching methods used	Vo-Ag teachers	
	Total*	Per cent*
Lecture	123	29.21
Workbooks	0	
Report	32	7.61
Lab farm	0	
Field trips	100	23.75
Specialists	30	7.22
Visual aids	65	15.34
Resource people	27	6.42
Others	44	10.45
Total	421	100.00

*Total represented the number of times each method was used in teaching the ten areas of animal husbandry from Table VIII. The per cent represented the proportion each method was used to the total methods used.

Data in Table X revealed whether vocational agriculture teachers taught animal husbandry by specific unit, teaching each unit only one time, part of the time, or never. The vocational agriculture teachers who always taught as a unit only one time amounted to 42.8 per cent. This teaching system was used either part of the time,

usually, or always in teaching animal husbandry by the teachers. None of the teachers indicated that they never used this system.

TABLE X

THE SYSTEM OF TEACHING ANIMAL HUSBANDRY

Teaching system	Degree of used	Total	
		Number	Per cent
Teaching each unit only one time.	Always	6	42.85
	Usually	3	21.43
	Part of the time	5	35.72
	Never	0	
	Total	14	100.00

SUMMARY AND CONCLUSIONS

Summary

This study was based on an assumption that animal husbandry has been one of the most important areas in the vocational agriculture curriculum in Kansas since vocational agriculture started. The majority of the teaching of animal husbandry was done in the sophomore year, which about one year devoted to animal husbandry in the total four-year curriculum. The areas covered in animal husbandry in high school curriculum were (1) dairy cattle, (2) beef cattle, (3) swine production, (4) sheep production, (5) horse

production, (6) poultry production, (7) feeds and feeding, (8) animal health, (9) livestock judging, and (10) animal breeding.

The primary purpose of this study was to determine the methods and resources used by vocational agriculture teachers in teaching animal husbandry to high school students. Other specific objectives included:

1. To determine the relative emphasis given areas in animal husbandry as recommended by vocational agriculture teachers.

2. To determine the resources most useful for vocational agriculture teachers in teaching animal husbandry.

3. To discover the methods of instruction being used by vocational agriculture teachers in teaching animal husbandry classes.

4. To determine the time allotted in the curriculum of the teaching animal husbandry by years.

Background information in this study was supplied by personal conducted interviews of fourteen vocational agriculture teachers in Kansas. A five-page check list questionnaire was developed for interviewing. Fourteen vocational agriculture teachers in the radius of thirty-five miles from Manhattan, Kansas were selected to be interviewed.

The specific findings in this study included:

1. The vocational agriculture teachers rated beef

cattle, animal health, feeds and feeding, and swine production as the most important areas in animal husbandry in each community. Dairy cattle, and sheep production were of minor importance, while horse and poultry production, livestock judging, and animal breeding were rated as slightly important.

2. Over one-fifth of fourteen vocational agriculture teachers emphasized animal husbandry teaching equally in all three portions of the total program; high school classes, young farmer classes, and adult farmer classes. More than one-half indicated animal husbandry was most important to teach high school students rather than other portions.

3. One hundred per cent of vocational agriculture teachers indicated animal husbandry was interesting to teach to high school students, fifteen thought animal husbandry easier to teach to high school students rather than young and adult farmer classes, 30 per cent of the teachers were undecided.

4. One hundred per cent of vocational agriculture teachers indicated students were interested in animal husbandry.

5. Time devoted to animal husbandry teaching amounted to in the freshman year about seventy-five days, in the sophomore year about ninety-five days, in the junior

year about forty-six days and in the senior year about thirty-three days of the total of the school year.

6. Fifty-seven per cent of vocational agriculture teachers indicated more time should be allotted to animal husbandry teaching, while 43 per cent indicated that the time should remain the same.

7. Teachers considered their personal farm background as the most important of all resources in animal husbandry teaching. University specialists were the most important human resource, while farm managers were valued the lowest as an aid in teaching animal husbandry.

8. Bulletins were used most as a non-human resource in teaching animal husbandry. Reference books and farm magazines were also rated high. None of the vocational agriculture teachers used work books in teaching animal husbandry.

9. Lecturing was the most popular method of teaching in every area of animal husbandry. However field trips and visual aids were also rated high as useful methods in teaching the areas of animal husbandry.

10. There was no particular textbook used in teaching each area of animal husbandry. All books were used as the reference books. Many reference books were used at the same time while teaching each areas of animal husbandry. The reference books used the most frequently by vocational

agriculture teachers were: Dairy Production, by R. V. Diggins and C. E. Bundy; The Stockman's Handbook, by M. E. Ensminger; Swine Production, by R. V. Diggins and C. E. Bundy; Sheep Husbandry, by M. E. Ensminger; Livestock and Poultry Production, by C. E. Bundy and R. V. Diggins; Feeds and Feeding, by F. B. Morrison; Animal Science, by M. E. Ensminger; Livestock Judging, by H. G. Youtz and A. C. Carlson.

11. Forty-three per cent of vocational agriculture teachers "always" taught each unit of animal husbandry only one time. Thirty-six per cent of the teachers "part of the time" taught each unit only one time. Thirty-one per cent of the teachers "usually" taught each unit only one time.

Implications

On the basis of findings in this study, it seemed logical to draw the following implications:

1. Animal husbandry has been one of the most important parts of the vocational curriculum.

2. When the vocational agriculture teachers were asked for the problems they faced in animal husbandry teaching, 62.3 per cent of the teachers stated they needed more time. Twenty-eight and six-tenths per cent needed up-to-date information. Fourteen and three-tenths per cent needed more short course training.

3. Vocational agriculture teachers would rather teach high school students than young and adult farmer classes. Of the teachers interviewed, 7.1 per cent stressed young farmer classes while 71.4 per cent stressed high school students.

4. Beef cattle, animal health, feeds and feeding, and swine production were the most important areas in animal husbandry as rated by vocational agriculture teachers.

5. Vocational agriculture teachers devoted more time in sophomore year than any of the other years. Seventy-five days were allotted for freshman year, ninety-five days for sophomore year, forty-six days for junior year, and thirty-three days were allotted for senior year.

6. The most useful methods in teaching animal husbandry as rated by the instructors included lecture, field trips, and visual aids. The use of work books had the least value according to the vocational agriculture teachers.

7. The best aids to animal husbandry teaching included the teacher's personal farm background, bulletins, reference books, farm magazines, movies, and commercial literature. The resource with the least value as an aid to animal husbandry teaching was the farm manager.

8. No particular textbook was used by vocational agriculture teachers for teaching animal husbandry. All

books were used as references in combination with other resources.

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APPENDIX

APPENDIX A

Questions on Animal Husbandry

I. Professional Preparation

1. How many credits in the field of animal husbandry did you earn while attending college:
   Quarter credits _____; Semester credits _____.
2. How many years have you taught vocational agriculture? _____
3. Were you born on a farm? Yes ____, No _____.
4. How many years did you live on a farm before the age of 18 years? _____.
5. How many years did you take vocational agriculture in high school? _____.
6. Was there a vocational agriculture program in high school you attended? Yes ____, No ____.
7. How many years were you in 4-H club work? _____; F. F. A. work? _____.
8. Are you farming on your own either part time or full time? Yes ____, No ____. If yes list the number of acres and heads: No. crop ____ acres, heads dairy cattle ____, beef cattle ____, swine ____, sheep ____, poultry ____.
9. What is your present age? ____.

10. Did you ever work as a herdsman on a farm or ranch before teaching? Yes ____, No ____.

II. Materials Use in Teaching Animal Husbandry

1. What textbooks are you now using to teach animal husbandry in each enterprise?

Enterprise	Name of Textbook	Author	Copy Right
A. Dairy Cattle	.....	.....	.....
B. Beef Cattle	.....	.....	.....
C. Swine Production	.....	.....	.....
D. Sheep Production	.....	.....	.....
E. Horse Production	.....	.....	.....
F. Poultry Production	.....	.....	.....
G. Feed & Feeding	.....	.....	.....
H. Animal Health	.....	.....	.....
I. Livestock Judging	.....	.....	.....
J. Animal Breeding	.....	.....	.....

2. How would you rate these textbooks?

Textbook	Very good	Good	Fair	Poor
A. Dairy Cattle	.....	....	....	....
B. Beef Cattle	.....	....	....	....
C. Swine	.....	....	....	....
D. Sheep	.....	....	....	....
E. Horse	.....	....	....	....

Textbook	Very good	Good	Fair	Poor
F. Poultry	.....	....	....	....
G. Feed & Feeding	.....	....	....	....
H. Animal Health	.....	....	....	....
I. Judging	.....	....	....	....
J. Breeding	.....	....	....	....

3. Do you use a work book when you teach animal husbandry? Yes ____, No ____. If yes, do you follow work book closely? _____, use part of work book for teaching certain area _____, very seldom use _____.

4. Does your agriculture library include animal husbandry reference books which are used in addition to the textbooks for information or help? Yes ____, No ____. If yes, how many? _____. List the ones you feel are most important to the instructor as a reference and the particular area of animal husbandry to which they are best suited.

A. _____
B. _____
C. _____
D. _____
E. _____
F. _____
G. _____
H. _____
I. _____
J. _____

5. List the reference books you feel the students use most.

   A. Dairy Cattle _____

   B. Beef Cattle _____

   C. Swine _____

   D. Sheep _____

   E. Horse _____

   F. Poultry _____

   G. Feed & Feeding _____

   H. Animal Health _____

   I. Judging _____

   J. Breeding _____

6. Do you use a school owned laboratory farm in part when you teach any phase of animal husbandry? Yes ____, No ____. If not, do you plan to use a laboratory farm in the future? Yes ____, No ____, Undecided ____.

7. Do you feel that a school owned laboratory farm is superior to the use of field trips to farms in the community? Yes ____, No ____.

8. How important do you find the following in helping high school teachers with the teaching of animal husbandry?

	Not at all useful	Moderate useful	Very useful
a. Textbooks	____	____	____
b. Work books	____	____	____

	Not at all useful	Moderate useful	Very useful
c. Bulletins	____	____	____
d. Commercial Co. Literature	____	____	____
e. County Extension Service	____	____	____
f. Farm Manager	____	____	____
g. Movies	____	____	____
h. Your own farm background	____	____	____
i. University specialists	____	____	____
j. Other	____	____	____

III. Methods and Procedures Used in Teaching

1. Do you teach animal husbandry by specific units, teaching each unit only one time? Always ____, Usually ____, Part of the time ____, Never ____.
2. Do you feel animal husbandry is an interesting subject for you to teach to high school students? Yes ____, No ____, Undecided ____.
3. Do you feel the majority of the students find animal husbandry an interesting subject? Yes ____, No ____, Undecided ____.
4. Is animal husbandry easier to teach to young and adult farmer classes rather than to high school students? Yes ____, No ____, Undecided ____.

5. Do you emphasize animal husbandry more in high school classes? ____, Young farmer classes? ____, Adult farmer classes, Or equally for all three ____.

6. In which high school year is animal husbandry emphasized most? Fresh. ____, Soph. ____, Jr. ____, Sr. ____. Why? _____.

7. In the following, you will have two parts to each question. First, circle VI if you feel the heading is very important. Circle MI if you feel it is moderate important, and NI if you feel it is of no importance. On the right side check only the headings that were taught in the past three years. If you use more than one method check as many as you use in the teaching of animal husbandry.

		Methods Used								
Enterprise		Lecture	Workbook	Report	Lab farm	Field trip	Specialists	Visual-aids	Resource people	Other
VI MI NI	Dairy Cattle									
VI MI NI	Beef Cattle									
VI MI NI	Swine Production									
VI MI NI	Sheep Production									
VI MI NI	Horse Production									
VI MI NI	Poultry Production									
VI MI NI	Feed and Feeding									
VI MI NI	Animal Health									
VI MI NI	Livestock Judging									
VI MI NI	Animal Breeding									

IV. Time

1. How much time is allotted to animal husbandry in your curriculum?

	Months	Weeks	Days
Ag. I	___	___	___
Ag. II	___	___	___
Ag. III	___	___	___
Ag. IV	___	___	___
Total	___	___	___

2. Do you feel there should be more or less time spent on animal husbandry? If more, how much more? _____, if less, how much less? _____.

3. What are some problems you are facing with when you teach animal husbandry in high school?

____ Lack of information

____ No experience in teaching

____ The students not interested in the subject

____ Lack of time

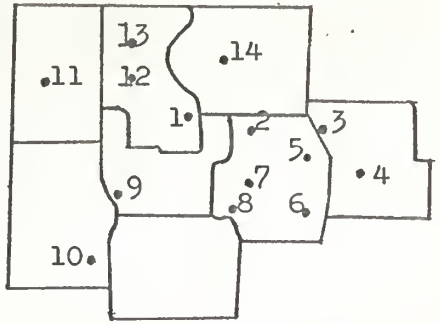
____ Other

4. Additional comments _____

_____

APPENDIX B

1. Manhattan
2. Wamego
3. St. Marys
4. Silver Lake
5. Rossville
6. Eskridge
7. Alma
8. Alta Vista
9. Chapman
10. Herrington
11. Clay Center
12. Riley
13. Randolph
14. Westmoreland



VOCATIONAL AGRICULTURE DEPARTMENTS COOPERATING IN THIS STUDY

APPENDIX C

LIST OF REFERENCE BOOKS USED BY FOURTEEN VOCATIONAL AGRICULTURE TEACHERS IN TEACHING EACH AREA OF ANIMAL HUSBANDRY

Area teaching	Name of Reference Book	Author(s)
Dairy Cattle	Dairy Production	R. V. Diggins & C. E. Bundy
	Approve Practice in Dairy Production	E. M. Juergenson & N.P. Mortenson
Beef Cattle	The Stockman's Handbook	M. E. Ensminger
	Approve Practice in Beef Production	E. M. Juergenson
	Beef Production	R. V. Diggins & C. E. Bundy
Swine Production	Swine Production	R. V. Diggins & C. E. Bundy
	Swine Science	M. E. Ensminger
	Approve Practice in Swine Production	E. M. Juergenson
Sheep Production	Sheep Husbandry	M. E. Ensminger
	Approve Practice in Sheep Production	E. M. Juergenson
	Sheep Production	W. G. Kammlade
Horse Production	Animal Science	M. E. Ensminger
Poultry Production	Livestock and Poultry Production	C. E. Bundy & R. V. Diggins
Feeds and Feeding	Feeds and Feeding	F. B. Morrison
Animal Health	Stockman's Handbook	M. E. Ensminger
	Veterinary Guide for Farmers	G. W. Stamm
	Animal Sanitation and Disease Control	R. R. Dykstra
Livestock Judging	Judging Livestock, Dairy Cattle, Poultry & Crops	G. H. Youtz & A. C. Carlson

APPENDIX D

EMPHASIS GIVEN BY AREA IN ANIMAL HUSBANDRY

Animal husbandry areas	Degree of Emphasis		
	Very important	Moderately important	Not important
Dairy Cattle	1	12	1
Beef Cattle	13	1	-
Swine Production	10	4	-
Sheep Production	2	10	2
Horse Production	-	8	6
Poultry Production	-	9	5
Feeds and Feeding	13	1	-
Animal Health	12	2	-
Livestock Judging	-	9	5
Animal Breeding	-	10	4

APPENDIX E

NON-HUMAN RESOURCES AS TEACHING AIDS

Resource used	Degree of importance		
	Very important	Moderately important	Not important
Bulletins	13	1	-
Reference books	7	7	-
Farm magazines	4	10	-
Movies	4	10	-
Commercial company literature	4	10	-
Work books	-	-	14

APPENDIX F

HUMAN SOURCES AS TEACHING AIDS

Resource used	Degree of importance		
	Very important	Moderately important	Not important
Your own farm background	13	1	-
County Extension Service	3	9	2
Farm managers	3	7	4
University specialists	4	9	1

THE METHODS AND RESOURCES USED FOR DEVELOPING THE CURRICULUM IN ANIMAL HUSBANDRY FOR VOCATIONAL AGRICULTURE IN KANSAS

by

SA-NGUAN KAEWMORAGOT

B. S., Kasetsart University, 1960

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

School of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1965

The primary purpose of this study was to determine the methods and resources used by vocational agriculture teachers in teaching animal husbandry to high school students. Other specific objectives included:

1. To determine the relative emphasis given areas in animal husbandry as recommended by vocational agriculture teachers.

2. To determine the resources most useful to vocational agriculture teachers in teaching animal husbandry.

3. To discover the methods of instruction being used by vocational agriculture teachers in teaching animal husbandry classes.

4. To determine the time allotted in the curriculum of the teaching animal husbandry by years.

Fourteen vocational agriculture teachers in Kansas were selected and interviewed for obtaining the information. The findings included:

1. The teachers rated beef cattle, animal health, feeds and feeding, and swine production as the most important areas in animal husbandry.

2. Vocational agriculture teachers would rather teach animal husbandry to high school students than young and adult farmer classes. Of the teachers interviewed 7.1 per cent stressed young farmer classes while 71.4 per cent stressed high school students.

3. One hundred per cent of the teachers interviewed indicated animal husbandry was interesting to teach to high school students and also indicated the students were interested in the subject.

4. The teachers devoted more time during the sophomore year to animal husbandry than any of the other years. Seventy-five days were allotted for freshman year, ninety-five days for sophomore, forty-six days for junior year, and thirty-three days were allotted for senior year.

5. More than one-half of vocational agriculture teachers indicated more time should be allotted to animal husbandry teaching.

6. The best aids in animal husbandry teaching included the teacher's personal farm background, university specialists, bulletins, reference books, farm magazines, movies, and commercial literature. Farm manager was the least value as an aid in teaching.

7. The teachers rated lecture, field trips, and visual aids as the most useful methods in teaching animal husbandry. Work books had the least value in teaching.

8. No particular textbook was used for teaching the various areas of animal husbandry. All books were used as a reference combination with other resources.

9. The problems which were facing the teachers in teaching animal husbandry included the lack of time,

insufficient up-to-date information, and lack of training in animal husbandry.